FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION
(please fill in the highlighted areas)

I. APPLICANT INFORMATION

A. Applicant Name: Trout Unlimited

B. Mailing Address: 111 N. Higgins St, Suite 500

C. City: Missoula State: MT Zip: 59802

Telephone: 406-218-8635

D. Contact Person: Paul Parson

Address if different from Applicant:

City: State: Zip:

Telephone: 406-218-8635

E. Landowner and/or Lessee Name (if other than Applicant): Lolo National Forest

Mailing Address: Building 24, Ft Missoula

City: Missoula State: MT Zip: 59804

Telephone: 406-329-3950

II. PROJECT INFORMATION*

A. Project Name: Martina Creek Reclamation Project

River, stream, or lake: Martina Creek

Location: Township T17N Range R24W Section S22

County: Missoula

B. Purpose of Project:

The overall goal of the project is to reclaim the water and land in the Martina Creek drainage that has been affected by historical mining to improve water quality and native fish habitat. The reclamation project will reconnect Martina Creek to Ninemile Creek.

C. Brief Project Description:

Martina Creek is a perennial tributary to Ninemile Creek located approximately 18 miles from the mouth of Ninemile Creek at the Clark Fork River. Martina Creek has been heavily altered by the extensive mining and, to a lesser extent logging, that occurred throughout the past century, and the lower reaches are severely disturbed with dredge ponds and cascading and braided channels. The cascading channels leading into the dredge ponds are highly erosive, contributing sediment to the steam. In addition, these channels and ponds impede upstream fish migration to important spawning habitat. The stream is generally described as being in poor condition and is an aggrading and braided channel due to these disturbances. The lower end of the stream which is on private land has also been mined and the stream currently flows over the edge of an eroding dredge cut pond wall and falls approximately 20 vertical feet to the pond. Additionally, there are an estimated 20,000 cubic yards of historic placer mine tailings that are impacting the project site.

This project will build on the completed Phase 1 upstream reclamation projects on Sawpit, Mattie V, and Twin Creek and mainstem Ninemile Creek. We seek to establish naturally functioning and appropriate channel type for Martina Creek, including stream planform, dimensions, gradient, vegetation, and floodplain conditions, and to restore connectivity with Ninemile Creek, thereby removing fish passage barriers. We propose to excavate approximately 20,000 cubic yards of mine waste and regrade the surrounding hillslopes and floodplain. The removed placer mine tailings will be used to partially fill the existing dredge cut in the hillslope that is currently causing major erosion problems. Martina Creek would be reconstructed in a historic channel that flows to the east of the existing dredge hole for approximately 600 feet to enhance the associated historic and less altered existing floodplain for Martina Creek.

The reconstructed stream channel will transition from a Rosgen B3-B4 stream type with a belt width of approximately 20 feet to a Rosgen C4 stream type near the confluence with Ninemile Creek. The existing B type channel assumes a 7-8 foot wide bankfull channel while the lower portion of the project transitions to a bankfull channel width of 12 feet. The average restored stream gradient will be 7%. A screening operation will be established to achieve desired alluvium gradations for the constructed riffles and backfill for the instream grade control and habitat structures. Boulders will be salvaged during earthworks or imported to the site for structure installation. Vegetated wood and brush fascines with soil wraps and willow cuttings will be used to construct stream banks to ensure initial bank stability. The banks will be backfilled with screened soil and the clump and sod transplants from the salvage effort will be incorporated. Before major earthworks begin, all trees and topsoil will be removed from the project footprint of approximately 1.6 acres and stockpiled for use in the stream channel construction and site cleanup activities. Furthermore, all native vegetation will be salvaged in clumps or sod mats for use in revegetation activities.

The project is part of a partnership between TU, Missoula County and the Lolo National Forest. Please see attached photos for examples of construction techniques from past projects on Sawpit, Mattie V and Twin Creek, completed in 2010, 2012 and 2014, respectively.

D. Length of stream or size of lake that will be treated: 600 feet

E. Project Budget:

Grant Request (Dollars): $ 30,000

Contribution by Applicant (Dollars): $ 0 In-kind $ 6,500
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): $ 120,379.20 In-kind $ 0
(attach verification - See page 2 budget template)

Total Project Cost: **$** 156,879.20

F. Attach itemized (line item) budget – see template

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

A Sampling and Analysis Plan (SAP) is currently being finalized for the Ninemile placer reclamation projects in collaboration with the Montana Department of Environmental Equality. In addition, the DNRC funding requires long term protection of the reclaimed sites.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Martina and upper Ninemile Creek host a mixed assemblage of native westslope cutthroat and brook trout.

B. How will the project protect or enhance wild fish habitat?:

This project will improve wild fish habitat through revegetation of the site, re-sloping of site topography and reconstruction of the stream channel. Stream temperatures should decrease when ponded areas with maximum exposure to direct sunlight are removed. Reclaiming the mining spoil piles on Martina Creek will help decrease sediment sources in the system and establish a functional floodplain and reconstructing the stream channel to proper slope and width-depth ratios will help improve sediment transport, which will both improve fish and wildlife habitat in both Martina and the Ninemile Creek. In addition, by establishing connectivity between Martina Creek and Ninemile Creek, upstream fish passage will be restored.

Results on Martina Creek should be similar to those from the Mattie V Creek project. Pre-project measurements on Mattie V in the impaired reach showed an average of 5 pools per 100m, while there were 25 pools per 100m in the restored channel. Pre and post macroinvertebrate sampling on Mattie V Creek also showed a marked difference in the diversity and density of macroinvertebrates in the newly constructed reach.

C. Will the project improve fish populations and/or fishing? To what extent?:

Degraded habitat at and below the historical mine sites is partially responsible for the low densities of fish and presence of non-native fish and we are confident that the Martina project will mirror results of completed reclamation projects which showed improvements in fish populations. For example, pre-restoration fish sampling on the Mattie V Creek showed an average of 8 fish per 100m in the impaired reach, most of which were brook trout. Post-restoration fish sampling in the newly constructed reach of Mattie V, however, showed that there were 35 fish per 100m with a mix of westslope cutthroat and brook trout. The Martina project will be similar to the successful Mattie V Creek and Twin Creek projects in the methodologies and techniques employed.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

According to Montana FWP, Ninemile Creek had 405 days of fishing pressure in 2009. Through stream channel restoration and mining waste removal, this project will improve an important fish spawning area in Ninemile watershed and indirectly improve public fishing through increased population numbers. Channel reconstruction on Martina Creek will create an opportunity for public fishing for wild fish on public land and contribute to improved watershed conditions on Ninemile Creek. Since this project takes place on public land (Lolo National Forest), the recreational public will have access to the site after project completion, although land use is regulated by the Forest Service.

E. If the project requires maintenance, what is your time commitment to this project?:

TU has included post project maintenance in all reclamation plans for projects in the Ninemile Creek drainage and has continued to monitor projects, like Eustache Creek, which were completed 7 years ago. TU has full time staff dedicated to project planning and these maintenance activities, including seasonal field technicians.

Additionally, project partners are committed to project monitoring to assess effectiveness. The project team has three fisheries sampling locations setup in the project area and five stream temperature monitoring stations, including two locations outside of the project area. TU is working with the University of Montana College of Forestry to develop a Senior Capstone Course project for the Wildland Restoration program to focus on monitoring the ecological effects of this and other upper Ninemile reclamation projects.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The lower Martina Creek watershed has been heavily disturbed by placer mining and associated activities such as road building and clearing. The mining areas have been abandoned by the operators and left in an unreclaimed condition. Problems include significant alteration of channel morphology, a lack of connection with Ninemile Creek, eroding banks, and numerous barriers for upstream fish passage. The reclamation project will move large piles of dredge mining tailings, fill in mining cutslopes and dredge ponds and reconstruct a new stream channel to connect Martina with mainstem Ninemile Creek.

G. What public benefits will be realized from this project?:

This project will improve water quality through surface runoff control, improved hydrology, and mine tailings removal, which will directly benefit downstream water users and the community adjacent to the Lolo National Forest. Improved fishing will benefit anglers and improved wildlife habitat in the watershed for deer, elk, moose, grouse, and small game will improve public hunting. In addition, by resloping the site topography and analyzing and removing potentially contaminated sediments, public safety will be improved, benefitting hikers, campers, other recreationists and Ninemile community members.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No. There are no water rights on Martina Creek or Ninemile Creek in the area.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No, the site located on USFS land in a remote part of the upper Ninemile Valley. Access is walk in only.

J. Is this project associated with the reclamation of past mining activity?:

Yes

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:  Date: 05/26/15

Sponsor (if applicable):

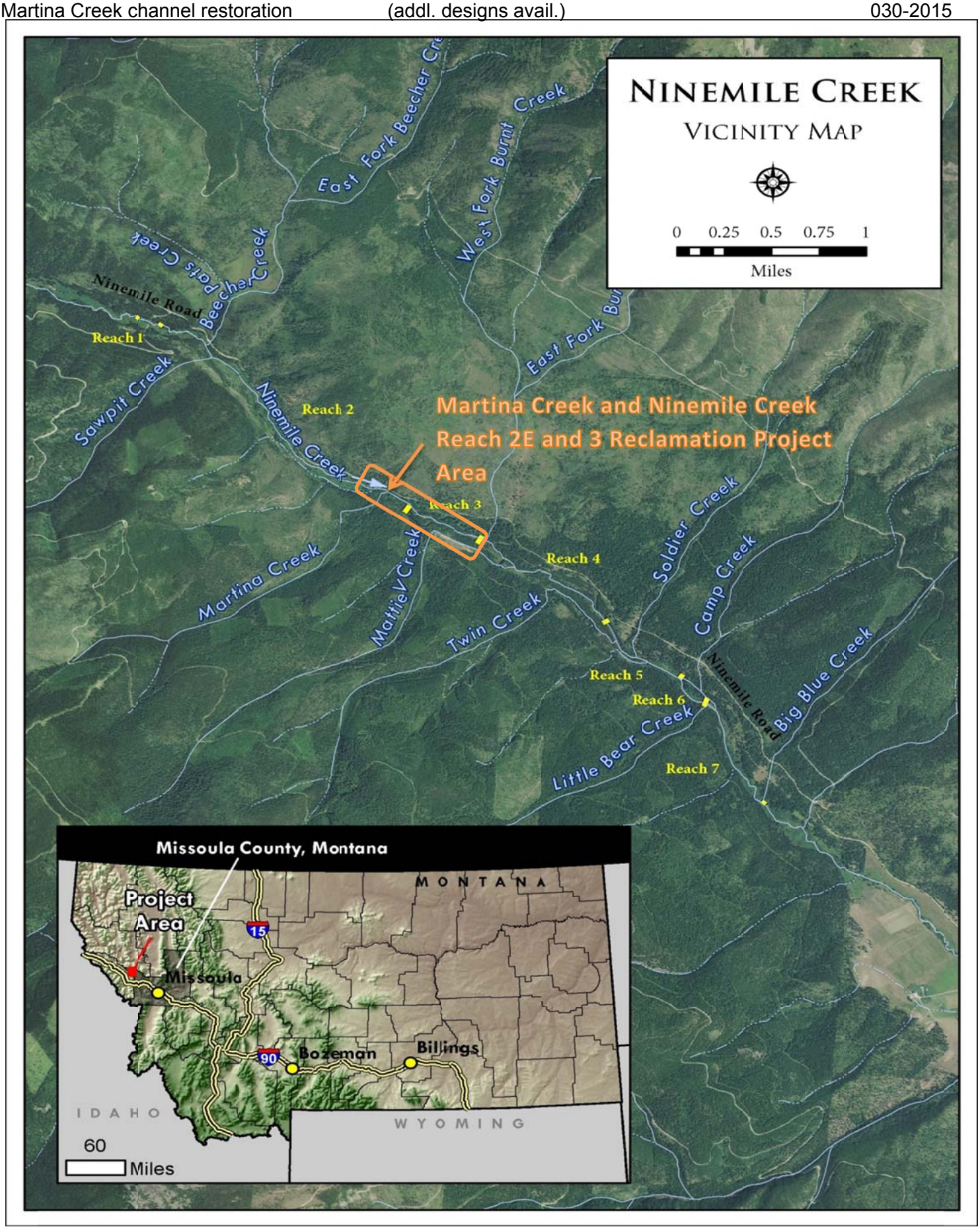
WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FISHERIES REQUEST	IN-KIND SERVICES	IN-KIND CASH	TOTAL
Personnel								
Survey	60	hours	$85.00	$ 5,100.00	-		5,100.00	$ 5,100.00
Design	10	hours	$100.00	$ 1,000.00	-		1,000.00	$ 1,000.00
Engineering	10	hours	$90.00	$ 900.00	-		900.00	$ 900.00
Permitting	40	hours	$80.00	$ 3,200.00	-		3,200.00	$ 3,200.00
Oversight	130	hours	$50.00	$ 6,500.00	-	6,500.00		$ 6,500.00
Labor	32	hours	$115.00	$ 3,680.00	-		3,680.00	$ 3,680.00
					-		-	$ -
Travel								
Mileage	2000	miles	$0.55	$ 1,100.00	-		1,100.00	$ 1,100.00
Per diem	4	days	$100.00	$ 400.00	-		400.00	$ 400.00
Construction Materials								
Large wood structure	15	LWS	$500.00	$ 7,500.00	-		7,500.00	$ 7,500.00
Constructed riffle	300	linear feet	$11.00	$ 3,300.00	-		3,300.00	$ 3,300.00
Log-rock step pool	9	each	$400.00	$ 3,600.00	-		3,600.00	$ 3,600.00
Vegetated wood fascine	300	linear feet	$12.00	$ 3,600.00	-		3,600.00	$ 3,600.00
Category 2 wood	78	each	$50.00	$ 3,900.00	-		3,900.00	$ 3,900.00
Category 3 wood	318	each	$5.00	$ 1,590.00	-		1,590.00	$ 1,590.00
Category 1 rock (12"-24")	195	each	$50.00	$ 9,750.00	-		9,750.00	$ 9,750.00
Rolanka bio-D fabric	6	rolls	$456.00	$ 2,736.00	-		2,736.00	$ 2,736.00
Stakes	1000	each	$0.75	$ 750.00	-		750.00	$ 750.00
Native wetland seed	0.6	acres	$342.00	$ 205.20	-		205.20	$ 205.20
Native dryland seed	4	acres	$192.00	$ 768.00	-		768.00	$ 768.00
Equipment								
Site prep - excavator	10	hours	$150.00	$ 1,500.00	1,500.00			$ 1,500.00
Site prep - dump	10	hours	$100.00	$ 1,000.00	-		1,000.00	$ 1,000.00

Grading and earthwork	20,000	cubic yards	$3.00	$ 60,000.00	6,000.00		54,000.00	$	60,000.00
Vegetation salvage	2	acres	$200.00	$ 400.00	-		400.00	$	400.00
Channel shaping - excavator	50	hours	$150.00	$ 7,500.00	7,500.00			$	7,500.00
Channel shaping - dump	40	hours	$100.00	$ 4,000.00			4,000.00	$	4,000.00
Channel rough shaping and grading	500	cubic yards	$3.00	$ 1,500.00			1,500.00	$	1,500.00
Stream construction - excavator	100	hours	$150.00	$ 15,000.00	15,000.00				
Revegetation - skidsteer	20	hours	$95.00	$ 1,900.00			1,900.00	$	1,900.00
Mobilization									
Mobilization	1	each	$2,000.00	$ 2,000.00			2,000.00	$	2,000.00
Demobilization and cleanup	1	each	$2,500.00	$ 2,500.00			2,500.00	$	2,500.00
				$ -			-	$	-
				$ -			-	$	-
				$ -			-	$	-
			TOTALS	$ 156,879.20	$ 30,000.00	$ 6,500.00	$ 120,379.20	$	156,879.20

*Units = feet, hours, inches, lump sum, etc.

MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL
Trout Unlimited	$ 6,500.00	$ -	$ 6,500.00
Lolo National Forest	$ -	$ 20,379.20	$ 20,379.20
Montana Department of Natural Resources	$ -	$ 100,000.00	$ 100,000.00
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ 126,879.20


NINEMILE CREEK
VICINITY MAP
0 0.25 0.5 0.75 1
Miles
East Fork Beecher Cr
West Fork Burnt Creek
Beecher Creek
Potts Creek
Ninemile Road
Reach 1
Sawpit Creek
Ninemile Creek
Reach 2
East Fork Bu
Martina Creek and Ninemile Creek
Reach 2E and 3 Reclamation Project
Area
Reach 3
Reach 4
Martina Creek
Mattie V Creek
Twin Creek
Soldier Creek
Camp Creek
Ninemile Road
Big Blue Creek
Reach 5
Reach 6
Reach 7
Little Bear Creek
Missoula County, Montana
MONTANA
Project
Area
15
Missoula
90
Bozeman
Billings
IDAHO
WYOMING
60
Miles

Martina Creek Mining Damage

Martina Creek Cascading into Dredge Pond

Abandoned Bridge over Dredge Pond

Martina Creek Dredge Pond in Late Fall

Martina Dredge Pond Near the Confluence with Ninemile Creek

Martina Creek Dredge Pond in Early Spring

United States Department of Agriculture **Forest Service** **Lolo National Forest** **Building 24, Fort Missoula Missoula, MT 59804-7297 406 329-3750**

File Code:
Date: May 19, 2015

Future Fisheries Improvement Program
c/o Michelle McGree
Montana Fish, Wildlife & Parks
P.O. Box 200701
1420 E. 6th Avenue
Helena, MT 59620-0701

Dear Panel Members,

The Lolo National Forest would like to offer our support for Trout Unlimited's grant application for a Future Fisheries Improvement Grant to continue restoration work in the Upper Ninemile Mining District, specifically Martina Creek.

The Ninemile Creek area has had a long history of mining, beginning in the late 1800's with the discovery of gold. Mining activity reached its peak around the turn of the century when the communities of Old Town and Martina boasted populations estimated as high as 5,000 people. The mines in Martina Creek have since been abandoned, leaving severely impacted stream morphology, altered hydrology and impaired water quality. The lower reach of Martina Creek is a cascading channel that drops into a dredge pond. Specific issues include excessive erosion, piles of dredged material that occupy much of the valley bottom and impede the function of the floodplain, and lack of fish passage into the upper watershed. The proposed work is in partnership with the US Forest Service, Missoula County, and private landowners. Primary goals are to reconnect Martina Creek for native fish passage, improve stream and riparian habitat, and reduce sediment delivery.

Trout Unlimited (TU), the Lolo National Forest, Missoula County, private landowners, state agencies, watershed groups, volunteers, and other conservation organizations have been working collaboratively on projects in the Ninemile Creek drainage for nearly a decade. Previously awarded Future Fisheries Grants to Trout Unlimited were instrumental in planning and implementation efforts for five other mine reclamation and fisheries improvement projects in the Ninemile and Sixmile Creek drainages. These projects have resulted in mine waste removal, tributary reconnection and fish passage improvements, increased surface water flow throughout the year, and functional streams and floodplains with native vegetation recovery. These are excellent restoration projects that compliment both ongoing and successfully completed work in the Ninemile watershed. Funds from the Future Fisheries Improvement Program are essential to completing these on the ground reclamation projects and would help this collaborative group in completing an ambitious watershed scale plan to remediate mining impacts in the area. Therefore, the Forest Service strongly supports this grant application. Thank you for your consideration.

Sincerely,

/s/ Timothy Garcia
TIMOTHY GARCIA
Forest Supervisor

cc: Aubree Benson, Laura Johnson-Boudreaux, Shane Hendrickson, Traci Sylte

Montana Fish, Wildlife & Parks

3201 Spurgin Road
Missoula, MT 59804
Phone 406-542-5506
E-mail lknotek@mt.gov
Fax 406-542-5529

May 14, 2015

Future Fisheries Improvement Program
c/o Michelle McGree
Montana Fish, Wildlife & Parks
P.O. Box 200701
1420 E. 6th Avenue
Helena, MT 59620-0701

RE: Trout Unlimited Funding Request for upper Ninemile Creek Mine Reclamation Work

Dear Panel Members:

This letter is written in support of Trout Unlimited's application for mine reclamation and stream habitat improvement funds in the upper Ninemile Creek drainage near Missoula. Specifically, funds are requested for implementation work on the Martina Creek project in upper Ninemile Creek. Missoula County and the Lolo National Forest are the primary partners on these projects.

Ninemile Creek is a very important tributary for the middle Clark Fork fishery and contributes to native fish conservation. This drainage supports many populations of native westslope cutthroat trout (MT Species of Concern) in tributary reaches and historically supported a viable bull trout population (Federally Threatened). Ninemile Creek also supports some of the largest rainbow and brown trout runs in the region, which provide recruitment to the Clark Fork fishery near Missoula (>40,000 angler-days per year in 2001-2011). Healthy tributaries are a key to the productivity and continued recovery of this system. The proposed project is located on important stream segments near the headwaters of the watershed. The project reaches contain westslope cutthroat trout with high genetic purity and brook trout.

The Ninemile Creek drainage has experience extensive mining impacts over the past century. The proposed project addresses priority mine reclamation sites identified in the Ninemile TMDL process and builds upon recently completed and planned reclamation work in Sawpit, Eustache, Little McCormick, Mattie V, and Twin Creeks by project partners. All of these similar, large projects were implemented successfully and have been closely monitored upon completion. Results have been impressive.

I strongly recommend granting funds for these projects for several reasons: 1) these sites are recognized as high priority reclamation sites, 2) project partners have demonstrated their commitment in following through with high quality work on the ground, and 3) funds requested are a small proportion of the total project cost. Please give strong consideration to these proposals and feel free to call me with questions at 542-5506.

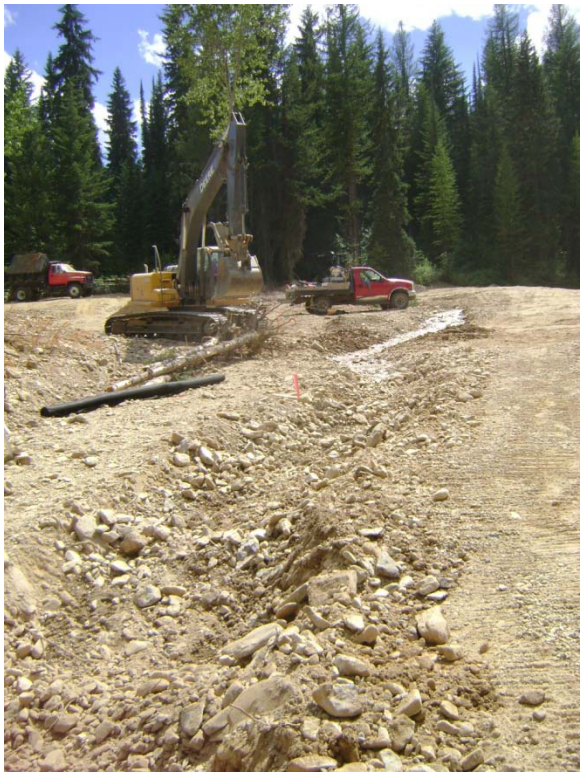
Sincerely,

Ladd Knotek
Fisheries Biologist

Photos
Methods and techniques

Constructing soil lifts with willows/containers

Sorting gravel and topsoil



Mine waste excavated and regraded – July 2010

Post restoration photo – July 2012